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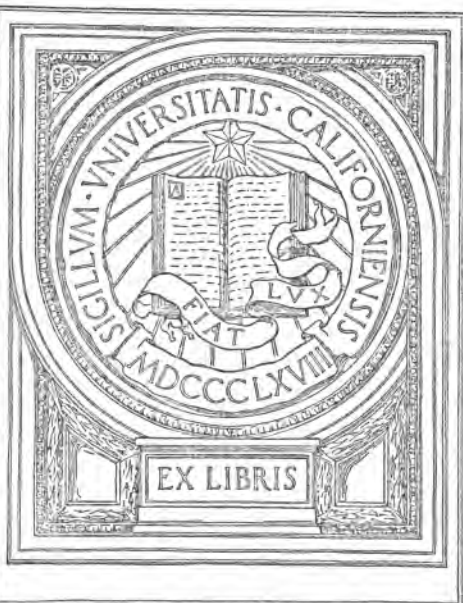
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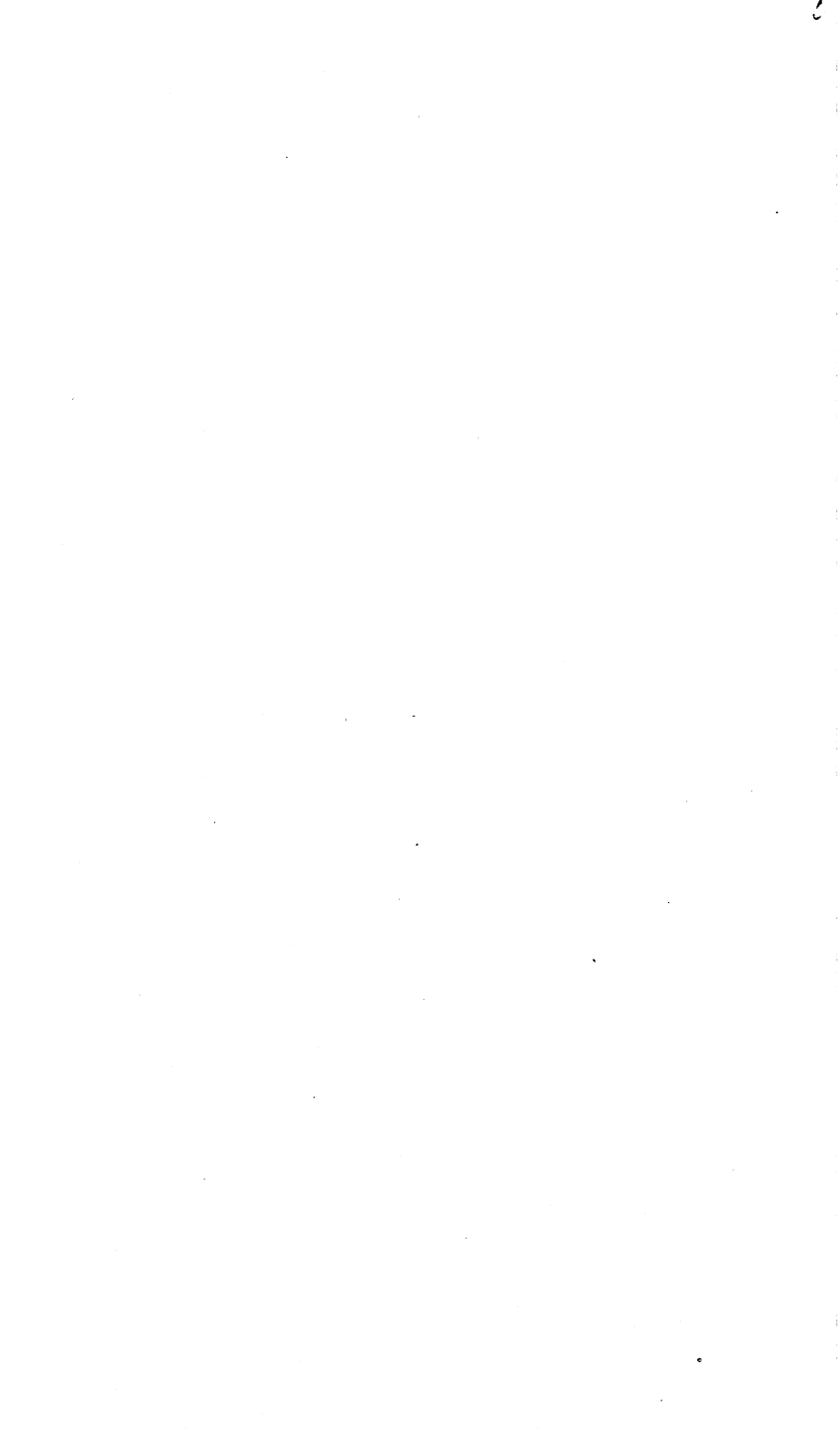
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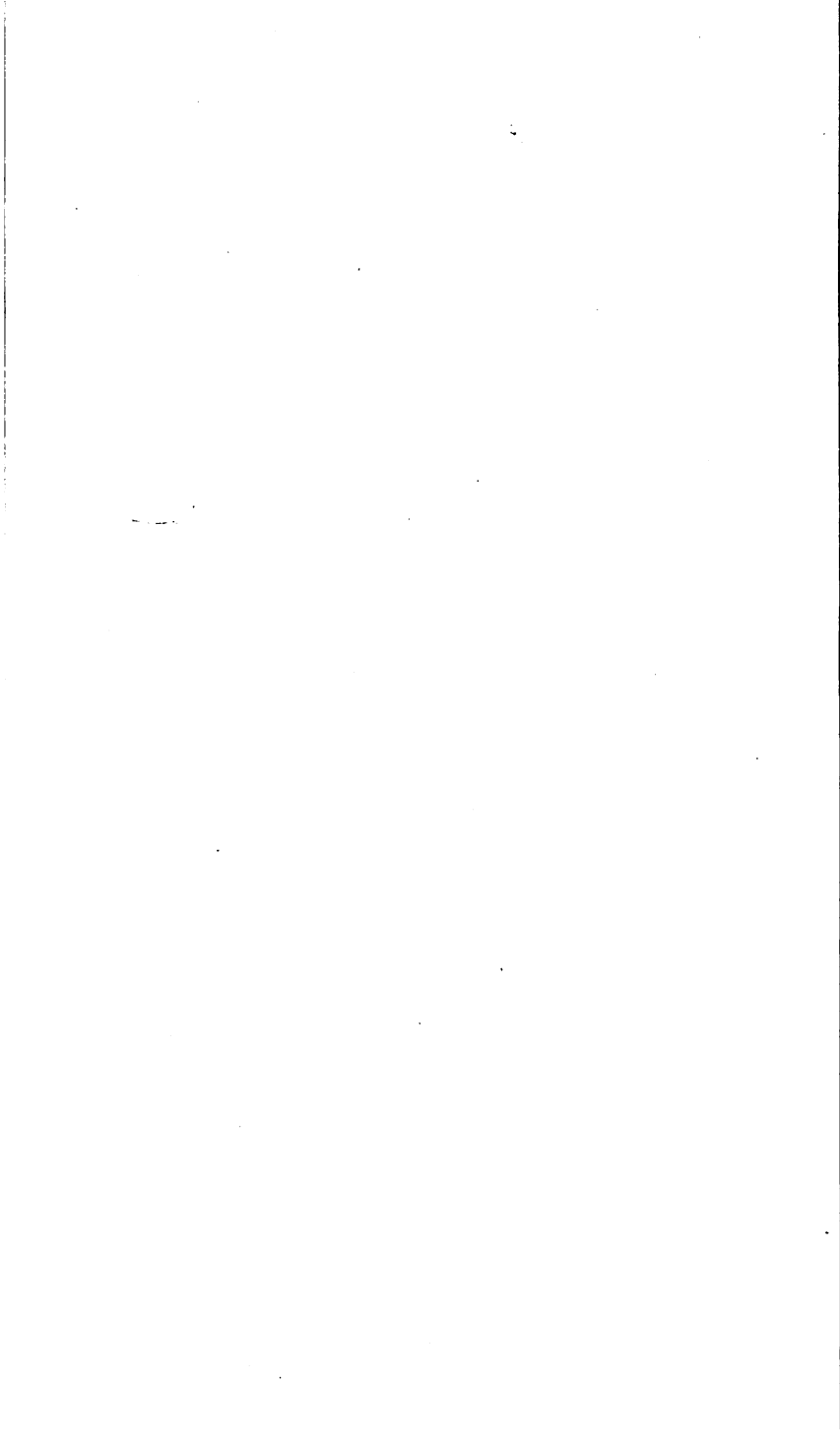
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Dr. M.

A

LECTURE

ON THE

WORKING MEN'S PARTY,

FIRST DELIVERED OCTOBER SIXTH,

BEFORE THE CHARLESTOWN LYCEUM,

AND

Published at their Request.

—
BY EDWARD EVERETT.
—"

BOSTON:

PUBLISHED BY GRAY AND BOWEN.

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JNO. W. DAVIS,

Clerk of the District of Massachusetts.

LECTURE.



MAN is by nature an active being. He is made to labor. His whole organization,—mental and physical,—is that of a hard-working being. Of his mental powers we have no conception, but as certain capacities of intellectual action. His corporeal faculties are contrived for the same end, with astonishing variety of adaptation.—Who can look only at the muscles of the hand, and doubt that man was made to work? Who can be conscious of judgment, memory, and reflection, and doubt that man was made to act? He requires rest, but it is in order to invigorate him for new efforts;—to recruit his exhausted powers: and as if to show him, by the very nature of rest, that it is Means, not End,—that form of rest, which is most essential and most grateful, sleep, is attended with the temporary suspension of the conscious and active powers. Nature is so ordered as both to require and encourage man to work.—He is created with wants, which cannot be satisfied without labor; at the same time, that ample provision is made by Providence, to satisfy them, with labor.—The plant springs up and grows on the spot, where the seed was cast by accident. It is fed by the moisture, which saturates the earth or is held suspended in the air; and it brings with it a sufficient covering to protect its delicate internal structure. It toils not, neither doth it spin, for clothing or food.—But, man is so created, that, let his wants be as simple as they will, he must labor to supply them. If, as is supposed to have been the case in primitive

ages, he lives upon acorns and water, he must draw the water from the spring ; and in many places he must dig a well in the soil ; and he must gather the acorns from beneath the oak, and lay up a store of them for winter.—He must, in most climates, contrive himself some kind of clothing of barks or skins ; must construct some rude shelter ; prepare some kind of bed, and keep up a fire.—In short, it is well known, that those tribes of our race, which are the least advanced in civilization, and whose wants are the fewest, have to labor the hardest for their support ; but at the same time it is equally true, that in the most civilized countries, by far the greatest amount and variety of work are done ; so that the improvement, which takes place in the condition of man, consists, not in diminishing the amount of labor performed, but in enabling men to work more, or more efficiently, in the same time.—A horde of savages will pass a week in the most laborious kinds of hunting ; following the chase day after day ; their women, if in company with them, carrying their tents and their infant children on their backs ; and all be worn down by fatigue and famine ; and in the end they will perhaps kill a buffalo. The same number of civilized men and women would probably, on an average, have kept more steadily at work, in their various trades and occupations, but with much less exhaustion, and the products of their industry would have been vastly greater ; or what is the same thing, much more work would have been done.

It is true, as man rises in improvement, he would be enabled by his arts and machinery, to satisfy the primary wants of life, with less labor ; and this may be thought to show, at first glance, that man was not intended to be a working being ; because, in proportion as he advances in improvement, less work would be required to get a mere livelihood. But here we see a curious provision of nature. In proportion as our bare natural wants are satisfied, artificial wants, or civilized wants, show themselves. And in the very highest state of improvement, it requires as constant an exertion to satisfy the new wants, which grow out of the habits and tastes of civilized life, as it requires

in savage life, to satisfy hunger and thirst, and keep from freezing. In other words, the innate desire of improving our condition keeps us all in a state of want. We cannot be so well off, that we do not feel obliged to work, either to ensure the continuance of what we now have, or to increase it.—The man, whose honest industry just gives him a competence, exerts himself, that he may have something against a rainy day ;—and how often do we not hear an affectionate father say, he is determined to spare no pains,—to work in season and out of season,—in order that his children may enjoy advantages denied to himself.

In this way, it is pretty plain, that Man, whether viewed in his primitive and savage state, or in a highly improved condition, is a working being. It is his destiny,—the law of his nature, to labor. He is made for it,—and he cannot live without it ; and the Apostle Paul summed up the matter, with equal correctness and point, when he said, that “ if any would not work, neither should he eat.”

It is a good test of principles like these, to bring them to the standard of general approbation or disapprobation. There are, in all countries, too many persons, who from mistaken ideas of the nature of happiness, or other less reputable causes, pass their time in idleness, or in indolent pleasures ; but I believe no state of society ever existed, in which the energy and capacity of labor were not commended and admired, or in which a taste for indolent pleasure was commended or admired, by the intelligent part of the community. When we read the lives of distinguished men, in any department, we find them almost always celebrated, for the amount of labor they could perform. Demosthenes, Julius Cæsar, Henry the Fourth of France, Lord Bacon, Sir Isaac Newton, Franklin, Washington, Napoleon,—different as they were in their intellectual and moral qualities,—were all renowned as hard-workers. We read how many days they could support the fatigues of a march ; how early they rose, how late they watched ; how many hours they spent in the field, in the cabinet, in the court ; how many secretaries

they kept employed ; in short, how hard they worked. But who ever heard of its being said of a man in commendation, that he could sleep fifteen hours out of the twenty-four, that he could eat six meals a day, and that he never got tired of his easy-chair ?

It would be curious to estimate, by any safe standard, the amount in value of the work of all kinds done in a community. This, of course, cannot be done, with any great accuracy. The pursuits of men are so various, and the different kinds of labor performed are so different in the value of their products, that it is scarcely possible to bring the aggregate to any scale of calculation. If we would form a kind of general judgment of the value of the labor of a community, we must look about us. All the improvements, which we behold, on the face of the earth ; all the buildings of every kind in town and country ; all the vehicles employed on the land and water ; the roads, the canals, the wharfs, the bridges ; all the property of all kinds, which is accumulated throughout the world ; and all that is consumed, from day to day and from hour to hour, to support those who live upon it,—all this is the product of labor ; and a proportionate share is the product of the labor of each generation.—It is plain that this comprehensive view is one, that would admit of being carried out, into an infinity of details, which would furnish the materials rather for a folio than a lecture. But as it is the taste of the present day, to bring every thing down to the standard of figures, I will suggest a calculation, which will enable us to judge of the value of the labor performed in the community, in which we live.—Take the population of Massachusetts, for the sake of round numbers, at 600,000 souls. I presume it will not be thought extravagant to assume, that one in six performs every day a good day's work, or its equivalent. If we allow nothing for the labor of five out of six, (and this certainly will cover the cases of those too young and too old to do any work, or who can do only a part of a day's work,) and if we also allow nothing for those whose time is worth more than that of the day-laborer, we may safely

assume, that the sixth person performs daily a vigorous efficient day's work of body or mind, by hand or with tools, or partly with each, and that this day's work is worth one dollar. This will give us one hundred thousand dollars a day, as the value of the work done in the State of Massachusetts. I have no doubt that it is a good deal more,—for this would be very little more, than it costs the population to support itself, and allows scarce any thing for accumulation, a good deal of which is constantly taking place. It will, however, show sufficiently the great amount of the labor done in this State, to take it as coming up, at least, to one hundred thousand dollars per day.

I have thus far laid down two propositions :—

First, that man is, by his nature, a working being ; and second, that the daily value of his work, estimated merely in money, is immensely great, in any civilized community.

I have made these preliminary remarks, as an introduction to some observations, which I propose to submit in the remainder of this lecture, on the subject of “ a working men's party.”—Towards the organization of such a party, steps have been taken in various parts of the country. It is probable, that a great diversity of views exists, among those who have occupied themselves upon the subject, in different places. This circumstance, and the novelty of the subject in some of its aspects, and its importance in all, have led me to think, that we might pass an hour profitably, in its contemplation.

I will observe upon it, in the first place, then, that if, as I have endeavored to show, man is by nature a working being, it would follow, that a working men's party is founded, in the very principles of our nature.—Most parties may be considered as artificial in their very essence ; many are local, temporary, and personal. What will the Adams, or the Jackson, or the Clay party be, a hundred years hence ? What are they now, in nine-tenths of the habitable globe ? Mere non-entities.—But the working men's party, however organized, is one that must subsist, in every civilized country to the end of time. In other words, its first principles are laid in our natures.

It secondly follows, from what I have remarked above, that the working men's party concerns a vast amount of property, in which almost every man is interested ; and in this respect it differs from all controversies and parties, which end merely in speculation, or which end in the personal advancement and gratification of a few individuals.

The next question, that presents itself, is, what is the general object of a working men's party ? I do not now mean, what are the immediate steps, which such a party proposes to take ; but what is the main object and end, which it would secure. To this I suppose I may safely answer, that it is not to carry this or that political election ; not to elevate this or that candidate for office, but to promote the prosperity and welfare of working men ; that is, to secure to every man disposed to work, the greatest freedom in the choice of his pursuit, the greatest encouragement and aid in pursuing it, the greatest security in enjoying its fruits :—in other words to make *work*, in the greatest possible degree, produce *happiness*.

The next inquiry seems to be, who belong to the working men's party ? The general answer here is obvious,—all who do the work ; or are actually willing and desirous to do it, and prevented only by absolute inability, such as sickness or natural infirmity. Let us try the correctness of this view, by seeing, whom it would exclude and whom it would include.

This rule, in the first place, would exclude all bad men ; that is, those, who may work indeed, but who work for immoral and unlawful ends. This is a very important distinction, and, if practically applied and vigorously enforced, it would make the working men's party the purest society, that ever existed since the time of the primitive christians. It is greatly to be feared, that scarce any of the parties, that divide the community, are sufficiently jealous on this point ; and for the natural reason, that it does not lie in the very nature of the parties.—Thus, at the polls, the vote of one man is as good as the vote of another. The vote of the drunkard counts one ; the vote of the temperate man counts *but* one. For this rea-

son, the mere party politician, if he can secure the vote, is apt not to be very inquisitive about the temperance of the voter. He may even prefer the intemperate to the temperate ; for to persuade the temperate man to vote with him, he must give him a good reason ;—the other will do it for a good drink.

But the true principles of the working men's party require, not merely that a man should work, but that he should work in an honest way and for a lawful object. The man, who makes counterfeit money, probably works harder than the honest engraver, who prepares the bills, for those authorized by law to issue them. But he would be repelled with scorn, if he presented himself as a member of the working men's party. The thief, who passes his life and gains a wretched precarious subsistence, by midnight trespasses on his neighbour's grounds ; by stealing horses from the stall, and wood from the pile ; by wrenching bars and bolts at night, or picking pockets in a crowd, probably works harder, (taking uncertainty and anxiety into the calculation, and adding, as the usual consequence, four or five years in the compulsory service of the State,) than the average of men pursuing honest industry, even of the most laborious kind : but this hard work would not entitle him to be regarded as a member of the working men's party.

If it be inquired, who is to be the judge, what kind of work is not only no title, but an absolute disqualification for admission to the working men's party, on the score of dishonesty, we answer, that for all practical purposes, this must be left to the law of the land. It is true, that under cover and within the pale of the law, a man may do things morally dishonest, and such as ought to shut him out of the party. But experience has shown, that it is dangerous to institute an inquisition into the motives of individuals ; and so long as a man does nothing, which the law forbids,—in a country where the people make the laws,—he ought, if not otherwise disqualified, to be admitted as a member of the party.

There ought, however, perhaps to be two exceptions to this

principle ; one, the case of those, who pursue habitually a course of life, which, though contrary to law, is not usually punished by the law, such as persons habitually intemperate. It is plain, that these men ought not to be allowed to act with the party, because they would always be liable, by a very slight temptation, to be made to act in a manner hostile to its interests ; and because they are habitually in a state of incapacity to do any intelligent and rational act.

The other exception ought to be of men, who take advantage of the law to subserve their own selfish and malignant passions. This is done in various ways, but I will allude to but one. The law puts it in the power of the creditor, not merely to seize the property of the debtor, in payment of the debt ; but to consider every case of inability as a case of fraudulent concealment, and to punish it as such, by imprisonment. This is often done in a way to inflict the greatest possible pain ; and in cases, in which not only no advantage but additional cost accrues to the creditor. A man who thus takes the advantage of the law, to wreak upon others his malignant passions, ought to be excluded, not merely from the working men's party, but from the pale of civilized society.

The next question regards idlers. If we exclude from the working men's party all dishonest and immoral workers, what are we to say to the case of the idlers ?—In general terms, the answer to this question is plain, they too must be excluded. With what pretence of reason can an idler ask to be admitted into the association of working men, unless he is willing to qualify himself by going to work, and then he ceases to be an idler. In fact, the man who idles away his time, acts against the law of his nature, as a working being. It must be observed, however, that there are few cases, where a man is *merely* an idler. In almost every case, he must be something worse,—such as a spendthrift, a gamester, or an intemperate person ; a bad son, a bad husband, and a bad father. If there are any persons dependent on him for support ; if he idles away the time, which he ought to devote to maintaining his wife, or his

children, or his aged parents, he then becomes a robber ; a man that steals the bread out of the mouths of his own family, and the clothes off their backs ; and he is as much more criminal, than the common highway robber, who takes the stranger's purse on the turnpike, as the ties of duty to our parents and children, are beyond those of common justice between man and man. But I suppose it would not require much argument to show, that the person, who leaves to want those whom he ought to support, even if he does not pass his idle hours in any criminal pursuit, has no right to call himself a working man.

There is a third class of men, whose case deserves consideration, and who are commonly called busy-bodies.—They are as different from real working men, as light is from darkness. They cannot be called idlers, for they are never at rest ; nor yet workers, for they pursue no honest creditable employment. So long as they are merely busy-bodies, and are prompted in their officious, fluttering, unproductive activity, by no bad motive and no malignant passion, they cannot, perhaps, be excluded from the party, though they have really no claim to be admitted into it. But here, too, the case of a *mere* busy-body scarce ever occurs. This character is almost always something more ; a dangerous gossip, a tattling mischief-maker, a propagator, too frequently an inventor, of slander. He repeats at one fireside, with additions, what he heard at another, under the implied obligation of confidence ; he is commonly in the front rank of all uneasy and inconsiderate movements, safely entrenched behind his neighbor, whom he pushes into trouble ; and he is very fond of writing anonymous libels in the newspapers, on men of whom he knows nothing. Such men, and there are too many of them, ought to be excluded from the party.

Shutting out then, all who work dishonestly, and all who do not work at all, and admitting the busy-bodies with great caution, the working men's party comprehends all those, by whom the work of the community is really done ;—all those who, by any kind of honest industry, employ the talent, which their Creator has given them. All these form one great party, one

comprehensive society, and this by the very law of our nature. Man is not only, as I observed in the beginning, a working being ; but he is a being formed to work in society ; and if the matter be carefully analysed, it will be found, that civilization, that is, the bringing men out of a savage into a cultivated state, consists in multiplying the number of pursuits and occupations : so that the most perfect society is one, where the largest number of persons are prosperously employed, in the greatest variety of ways. In such a society, men help each other, instead of standing in each other's way. The farther this division of labor is carried, the more persons must unite harmoniously, to effect the common ends. The larger the number, on which each depends, the larger the number to which each is useful.

This union of different kinds of workmen in one harmonious society seems to be laid, in the very structure and organization of man. Man is a being, consisting of a body and a soul. These words are *soon* uttered, and they are so *often* uttered, that the mighty truth, which is embraced in them, scarce ever engages our attention.—But man is composed of body and soul. What is body ? It is material substance ; it is clay, dust, ashes. Look at it, as you tread it unorganized beneath your feet ; contemplate it, when, after having been organized and animated, it is, by a process of corruption, returning to its original state. Matter, in its appearances to us, is an unorganized, inanimate, cold, dull, and barren thing. What it is in its essence, no one but the Being who created it knows. The human mind can conceive of it only as the absolute negation of qualities. And we say, that the body of man is formed of the clay or dust ; because these substances seem to us to make the nearest approach to the total privation of all the properties of intellect. Such is the *body* of man.—What is his *soul* ?—Its essence is as little known to us as that of body ; but its qualities are angelic, divine. It is soul, which thinks, reasons, invents, remembers, hopes, and loves. It is the soul which lives ; for when the soul departs from the body, all its vital powers cease ; and it is dead ;—and what is the body then ?

Now the fact, to which I wish to call your attention, is, that these two elements, one of which is akin to the poorest dust on which we tread, and the other of which is of the nature of angelic and even of divine intelligence, are, in every human being, without exception, brought into a most intimate and perfect union. We can conceive, that it might have been different. God could have created matter by itself and mind by itself. We believe in the existence of incorporeal beings of a nature higher than man ; and we behold beneath us in brutes, plants, and stones, various orders of material nature, rising, one above another, in organization ; but none of them (as we suppose) possessing mind.—We can imagine a world so constituted, that all the intellect would have been by itself, pure and disembodied ; and all the material substance by itself unmixed with mind ; and acted upon by mind, as inferior beings are supposed to be acted upon by angels. But in constituting our race, it pleased the Creator to bring the two elements into the closest union ; to take the body from the dust ; the soul from the highest heaven ; and mould them into one.

The consequence is, that the humblest laborer, who works with his hands, possesses within him a soul, endowed with precisely the same faculties, as those which in Franklin, in Newton, or Shakspeare, have been the light and the wonder of the world ; and on the other hand, the most gifted and etherial genius, whose mind has fathomed the depths of the heavens and comprehended the whole circle of truth, is enclosed in a body, subject to the same passions, infirmities, and wants, as the man whose life knows no alternation but labor and rest, appetite and indulgence.

Did it stop here, it would be merely an astonishing fact in the constitution of our natures ;—but it does not stop here. In consequence of the union of the two principles in the human frame, every act, that a man performs, requires the agency both of body and mind. His mind cannot see, but through the optic eye-glass ; nor hear till the drum of his ear is affected by the vibrations of the air. If he would speak, he puts in action

the complex machinery of the vocal organs ; if he writes he employs the muscular system of the hands ; nor can he even perform the operations of pure thought, except in a healthy state of the body. A fit of the tooth-ache, proceeding from the irritation of a nerve, about as big as a cambric-thread, is enough to drive an understanding, capable of instructing the world, to the verge of insanity. On the other hand, there is no operation of manual labor so simple, so mechanical, which does not require the exercise of perception, reflection, memory, and judgment ; the same intellectual powers, by which the highest truths of science have been discovered and illustrated.

The degree to which any particular action, (or series of actions united into a pursuit) shall exercise the intellectual powers, on the one hand, or the mechanical powers on the other, of course, depends on the nature of that action. The slave whose life from childhood to the grave is passed in the field ; the New Zealander who goes to war, when he is hungry, devours his prisoners, and leads a life of cannibal debauch till he has consumed them all, and then goes to war again ; the Greenlander, who warms himself with the fragments of wrecks and drift-wood thrown upon the glaciers, and feeds himself with blubber ; seem all, to lead lives, requiring but little intellectual action ; and yet, as I have remarked, a careful reflection would show that there is not one, even of them, who does not, every moment of his life, call into exercise, though in an humble degree, all the powers of the mind. In like manner, the philosopher who shuts himself up in his cell and leads a contemplative existence, among books or instruments of science, seems to have no occasion to employ, in their ordinary exercise, many of the capacities of his nature for physical action ;—although he also, as I have observed, cannot act or even think, but with the aid of his body.

This is unquestionably true. The same Creator who made man a mixed being, composed of body and soul ; having designed him for such a world as that in which we live ; has so constituted the world and man who inhabits it, as to afford

scope for great variety of occupations, pursuits, and conditions, arising from the tastes, characters, habits, virtues and even vices of men and communities. For the same reason, that—though all men are alike composed of body and soul, yet no two men probably are exactly the same in respect to either ;—so provision has been made, by the author of our being, for an infinity of pursuits and employments, calling out, in degrees as various, the peculiar powers of both principles.

But I have already endeavored to show, that there is no pursuit and no action that does not require the united operation of both ; and this of itself is a broad natural foundation for the union into one interest of all, in the same community, who are employed in honest work of any kind ; viz. that, however various their occupations, they are all working with the same instruments ; the organs of the body and the powers of the mind.

But we may go a step farther, to remark the beautiful process, by which Providence has so interlaced and wrought up together the pursuits, interests, and wants of our nature, that the philosopher, whose home seems less on earth than among the stars, requires for the prosecution of his studies the aid of numerous artificers in various branches of mechanical industry ; and in return, furnishes the most important facilities to the humblest branches of manual labor. Let us take as a single instance, that of astronomical science. It may be safely said, that the wonderful discoveries of modern astronomy and the philosophical system depending upon them, could not have existed, but for the *telescope*. The want of the telescope kept astronomical science in its infancy among the ancients. Although Pythagoras, one of the earliest Greek philosophers, by a fortunate exercise of sagacity, conceived the elements of the Copernican system, yet we find no general and practical improvement resulting from it. It was only from the period of the discoveries, made by the telescope, that the science advanced, with sure and rapid progress. Now the astronomer does not make telescopes. I presume it would be impossible for a person, who employed in the abstract study of astronomical

science time enough to comprehend its profound investigations, to learn and practise the trade of making glass. It is mentioned, as a remarkable versatility of talent in one or two eminent observers, that they have superintended the cutting and polishing of the glasses of their own telescopes. But I presume if there never had been a telescope, till some scientific astronomer had learned to mix, melt, and mould glass, such a thing would never have been heard of. It is not less true, that those employed in making the glass could not, in the nature of things, be expected to acquire the scientific knowledge, requisite for carrying on those arduous calculations, applied to bring into a system, the discoveries made by the magnifying power of the telescope. I might extend the same remark to the other materials, of which a telescope consists. It cannot be used to any purpose of nice observation, without being very carefully mounted, on a frame of strong metal; which demands the united labors of the mathematical instrument-maker, and the brass-founder. Here then, in taking but one single step out of the philosopher's observatory, we find he needs an instrument, to be produced by the united labors of the mathematical instrument-maker; the brass-founder; the glass-polisher; and the maker of glass, four trades.* He must also have an astronomical clock, and it would be easy to count up half a dozen trades, which directly or indirectly are connected in making a clock. But let us go back to the *object glass* of the telescope. A glass factory requires a building and furnaces. The man who makes the glass, does not make the building. But the stone and brick mason, the carpenter, and the blacksmith must furnish the greater part of the labor and skill, required to construct the building. When it is built, a large quantity of fuel, wood and wood-coal, or mineral coal of various kinds, or all together must be provided; and then the materials of which the glass is made and with which it is colored, some of which are furnished by commerce from different and distant regions,

* The allusion is here to the simplest form of a telescope. The illustration would be stronger in the case of a reflector.

and must be brought in ships across the sea. We cannot take up any one of *these* trades, without immediately finding that it connects itself with numerous others. Take for instance, the mason who builds the furnace. He does not make his own bricks, nor burn his own lime; in common cases, the bricks come from one place, the lime from another, the sand from another. The brick-maker does not cut down his own wood. It is carted or brought in boats to his yard. The man, who carts it does not make his own wagon; nor does the person who brings it in boats, build his own boat. The man, who makes the wagon, does not make its tire. The blacksmith, who makes the tire, does not smelt the ore; and the forgerman who smelts the ore, does not build his own furnace, (and there we get back to the point whence we started,) nor dig his own mine. The man who digs the mine, does not make the pick-axe with which he digs it; nor the pump with which he keeps out the water. The man who makes the pump, did not discover the principle of atmospheric pressure, which led to pump-making: that was done by a mathematician at Florence, experimenting in his chamber, on a glass tube. And here we come back again to our glass; and to an instance of the close connexion of scientific research with practical art. It is plain, that this enumeration might be pursued till every art and every science were shown to run into every other. No one can doubt this, who will go over the subject in his own mind, beginning with any one of the processes of mining and working metals, of ship-building, and navigation, and the other branches of art and industry, pursued in civilized communities.

If then, on the one hand, the astronomer depends for his telescope on the ultimate product of so many arts; in return, his observations are the basis of an astronomical system and of calculations of the movements of the heavenly bodies, which furnish the mariner with his best guide across the ocean. The prudent ship-master would no more think of sailing for India, without his Bowditch's *Practical Navigator*, than he would without his compass; and this Navigator contains tables, drawn

from the highest walks of astronomical science. Every first mate of a vessel, who works a lunar observation, to ascertain the ship's longitude, employs tables, in which the most wonderful discoveries and calculations of La Place and Newton, and Bowditch are interwoven.

I mention this as but one of the cases, in which astronomical science promotes the service and convenience of common life ; and perhaps, when we consider the degree, to which the modern extension of navigation connects itself with industry in all its branches, this may be thought sufficient. I will only add, that the cheap convenience of an almanac, which enters into the comforts of every fireside in the country, could not be enjoyed, but for the labors and studies of the profoundest philosophers. Not that great learning or talent is now required to execute the astronomical calculations of an almanac, although no inconsiderable share of each is needed for this purpose ; but because, even to perform these calculations requires the aid of tables, which have been gradually formed on the basis of the profoundest investigations of the long line of philosophers, who have devoted themselves to this branch of science. For, as we observed on the mechanical side of the illustration, it was not one trade alone, which was required to furnish the philosopher with his instrument, but a great variety ; so, on the other hand, it is not the philosopher in one department, who creates a science out of nothing. The observing astronomer furnishes materials to the calculating astronomer, and the calculator derives methods from the pure mathematician ; and a long succession of each for ages must unite their labors, in a great result. Without the geometry of the Greeks, and the algebra of the Arabs, the infinitesimal analysis of Newton and Leibnitz would never have been invented.

Examples and illustrations equally instructive might be found in every other branch of industry. The man, who will go into a cotton-mill, and contemplate it from the great water-wheel, that gives the first movement, (and still more

from the steam engine, should that be the moving power,) who will observe the parts of the machinery, and the various processes of the fabric, till he reaches the hydrostatic press, with which it is made into a bale, and the canal or rail-road by which it is sent to market, may find every branch of trade and every department of science literally crossed, intertwined, interwoven with every other, like the woof and the warp of the article manufactured. Not a little of the spinning machinery is constructed on principles, drawn from the demonstrations of transcendental mathematics; and the processes of bleaching and dying, now practised, are the results of the most profound researches of modern chemistry.—And if this does not satisfy the inquirer, let him trace the cotton to the plantation, where it grew, in Georgia or Alabama; the indigo to Bengal; the oil to the olive-gardens of Italy, or the fishing grounds of the Pacific Ocean; let him consider Whitney's cotton-gin; Whittemore's carding-machine; the power-loom; and the spinning apparatus; and all the arts, trades, and sciences, directly or indirectly connected with these; and I believe he will soon agree, that one might start from a yard of coarse printed cotton, which costs ten cents, and prove out of it, as out of a text, that every art and science under heaven had been concerned in its fabric.

I ought here to allude also, to some of those pursuits, which require the ability to exercise, at the same time, on the part of the same individual the faculties both of the intellectual and physical nature,—or which unite very high and low degrees of mental power. I have no doubt, that the talent for drawing and painting, possessed by some men to such an admirable degree, depends partly on a peculiar organic structure of the eye, and of the muscles of the hand, which gives them their more delicate perceptions of color and their greater skill in delineation. These no doubt are possessed by many individuals, who want the intellectual talent,—the poetic fire,—required for a great painter. On the other hand, I can conceive of a man's possessing the invention and imagination of a painter, without the eye and the hand required to embody on the canvass the

ideas and images in his mind. When the two unite, they make a Raphael or a Titian ; a Martin or an Allston. An accomplished statuary, such as Canova or Chantrey, must, on the one hand, possess a soul filled with all grand and lovely images, and have a living conception of ideal beauty ; and on the other hand, he must be a good stone-cutter, and able to take a hammer and a chisel in his hand, and go to work on a block of marble, and chip it down to the lip of Apollo or the eye-lid of Venus.—The architect must be practically acquainted with all the materials of building, wood, brick, mortar, and stone ; he must have the courage and skill to plant his moles against the heaving ocean, and to hang his ponderous domes and gigantic arches in the air ; while he must have taste to combine the rough and scattered blocks of the quarry into beautiful and majestic structures ; and discern clearly in his mind's eye, before a sledge-hammer has been lifted, the elevation and proportions of the temple. The poet must know, with a school-master's precision, the weight of every word, and what vowel follows most smoothly, on what consonant ; at the same time, that his soul must be stored with images, feelings, and thoughts, beyond the power of the boldest and most glowing language, to do more than faintly shadow out. The surgeon must, at once, have a mind naturally gifted and diligently trained, to penetrate the dark recesses of organic life ; and a nerve and tact, which will enable him to guide his knife among veins and arteries, out of sight, in the living body of an agonizing, shrieking fellow creature, or to take a lancet in his left hand, and cut into the apple of the eye. The lawyer must be able to reason from the noblest principles of human duty and the most generous feelings of human nature ; he must fully comprehend the mighty maze of the social relations ; he must carry about with him a stock of learning almost boundless ; he must be a sort of god to men and communities, who look up to him, in the hour of the dearest peril of their lives and fortunes ; and he must at the same time be conversant with a tissue of the most senseless fictions and arbitrary technology, that ever disgraced

a liberal science. The merchant must be able to look at the same moment, at the markets and exchanges of distant countries and other hemispheres, and combine considerations of the political condition, the natural wants, the tastes and habits of different parts of the world ; and he must be expert at figures, —understand book-keeping by double entry,—and know as well how to take care of a quarter chest of tea as a cargo of specie. The general-in-chief must be capable of calculating for a twelvemonth in advance the result of a contest, in which all the power, resource, and spirit of two great empires enter and struggle, on land and by sea ; and he must have an eye, that can tell at a glance, and on the responsibility of his life, how the stone walls, and trenched meadows, the barns, and the woods, and the cross-roads of a neighborhood, will favor or resist the motions of a hundred thousand men, scattered over a space of five miles, in the fury of the advance, the storm of battle, the agony of flight, covered with smoke, dust, and blood.*

It was my intention to subject the art of printing to an analysis of the trades, arts and sciences connected with it ; but I have not time to do it full justice, and the bare general idea need not be repeated. I will only say that, beginning with the invention, which bears in popular tradition the name of Cadmus, I mean the invention of alphabetical signs to express sounds, and proceeding to the discovery of convenient materials for writing, and the idea of written discourse ; thence to the preparation of manuscript books ; and thence to the fabric, on a large scale, of linen and cotton paper, the invention of moveable types, and the printing press, the art of engraving on metal, of stereotype printing, and of the power press,—we have a series of discoveries, branching out into others in every department of human pursuit ; connecting the highest philosophical principles with the results of mere manual labor, and producing in the end, that system of diffusing and multi-

* This paragraph is taken, with some alterations, from an Essay published by the author some years ago in a Periodical Journal.

plying the expression of thought, which is, perhaps, the glory of our human nature. Pliny said, that the Egyptian reed was the support, on which the immortal fame of man rested. He referred to its use, in the manufacture of paper. We may with greater justice say as much of the manufacture of paper from rags, and of the printing press, neither of which was known to Pliny.—But with all the splendor of modern discoveries and improvements in science and art, I cannot but think that he, who in the morning of the world, first conceived the idea of representing sounds, by visible signs, took the most important step, in the march of improvement. This sublime conception was struck out in the infancy of mankind. The name of its author, his native country, and the time when he lived, are known only, by very uncertain tradition ; but though all the intelligence of ancient and modern times, and in the most improved countries, has been concentrated into a focus, burning and blazing upon this one spot, it has never been able to reduce it to any simpler elements, nor to improve, in the slightest degree, upon the original suggestion of Cadmus.

In what, I have thus far submitted to you, you will probably have remarked, that I have illustrated chiefly the connexion with each other of the various branches of science and art ; of the intellectual and physical principles. I have not distinctly shown the connexion of the moral principle, in all its great branches, with both. This subject would well form the matter of a separate essay. But its elementary ideas are few and plain. The arts and sciences, whose connexion we have pointed out, it is plain, require for their cultivation a civilized state of society. They cannot thrive in a community, which is not in a state of regular political organization, under an orderly system of government, uniform administration of laws, and a general observance of the dictates of public and social morality. Farther, such a community cannot exist, without institutions of various kinds for elementary, professional, and moral education ; and connected with these, are required the services of a large class of individuals, employed in various ways, in the

business of instruction ; from the meritorious schoolmaster, who teaches the little child its A, B, C, to the moralist, who lays down the great principles of social duty for men and nations, and the minister of divine truth, who inculcates those sanctions, by which God himself enforces the laws of reason. There must also be a class of men competent by their ability, education, and experience to engage in the duty of making and administering the law, for in a lawless society it is impossible that any improvement should be permanent. There must be another class competent to afford relief to the sick, and thus protect our frail natures, from the power of the numerous foes that assail them.

It needs no words to show, that all these pursuits are in reality connected with the ordinary work of society, as directly as the mechanical trades, by which it is carried on.—For instance, nothing would so seriously impair the prosperity of a community, as an unsound and uncertain administration of justice. This is the last and most fatal symptom of decline in a state. A community can bear a very considerable degree of political despotism, if justice is duly administered between man and man. But where a man has no security, that the law will protect him in the enjoyment of his property ; where he cannot promise himself a righteous judgment in the event of a controversy with his neighbor ; where he is not sure when he lays down at night that his slumbers are safe, there he loses the great motives to industry and probity ; credit is shaken ; enterprise disheartened, and the State declines.—The profession, therefore, which is devoted to the administration of justice, renders a service to every citizen of the community, as important as to those whose immediate affairs require the aid of counsel.

In a very improved and civilized community, there are also numerous individuals, who, without being employed in any of the common branches of industry or of professional pursuit, connect themselves, nevertheless, with the prosperity and happiness of the public, and fill a useful and honorable place in its

service. Take for instance, a man like Sir Walter Scott, who probably never did a day's work, in his life, in the ordinary acceptation of the term, and who has for some years retired from the subordinate station he filled in the profession of the law, as sheriff of the county and clerk of the Court. He has written and published at least two hundred volumes of wide circulation. What a vast amount of the industry of the community is thereby put in motion!—The booksellers, printers, paper-makers, press-makers, type-makers, book-binders, leather-dressers, ink-makers, and various other artisans required to print, publish, and circulate the hundreds and thousands of volumes, of the different works, which he has written, must be almost numberless. I have not the least doubt, that, since the series of his publications began, if all whose industry,—directly or remotely,—has been concerned in them, not only in Great Britain, but in America, and on the Continent of Europe, could be brought together and stationed side by side, as the inhabitants of the same place, they would form *a very considerable town*. Such a person may fairly be ranked as a working man.

And yet I take this to be the least of Sir Walter Scott's deserts. I have said nothing of the service rendered to every class and to every individual in every class, by the writer, who beguiles of their tediousness the dull hours of life; who animates the principle of goodness within us, by glowing pictures of struggling virtue; who furnishes our young men and women with books, which they may read with interest, and not have their morals poisoned as they read them. Our habits, our principles, our characters,—whatever may be our pursuit in life,—depend very much on the nature of our youthful pleasures, and on the mode in which we learn to pass our leisure hours. And he who, with the blessing of Providence, has been able by his mental efforts, to present virtue in her strong attractions, and vice in her native deformity, to the rising generation, has rendered a service to the public, greater even than his, who invented the steam engine, or the mariner's compass.

I have thus endeavored to show, in a plain manner, that there is a close and cordial union between the various pursuits and occupations, which receive the attention of men in a civilized community:—That they are links of the same chain, every one of which is essential to its strength.

It will follow, as a necessary consequence; as the dictate of reason and as the law of nature;—that every man in society, whatever his pursuit, who devotes himself to it, with an honest purpose, and in the fulfilment of the social duty which Providence devolves upon him, is entitled to the good fellowship of each and every other member of the community. That all are the parts of one whole; and that between those parts, as there is but one interest, so there should be but one feeling.

Before I close this lecture, permit me to dwell for a short time on the principle, which I have had occasion to advance above, that the immortal element in our nature,—the reasoning soul,—is the inheritance of all our race. As it is this, which makes man superior to the beasts that perish; so it is this, which, in its moral and intellectual endowments, is the sole foundation for the only distinctions between man and man, which have any real value. This consideration shows the value of institutions for education and for the diffusion of knowledge. It was no magic, no miracle, which made Newton, and Franklin, and Fulton. It was the patient, judicious, long continued cultivation of powers of the understanding, eminent no doubt in degree, but not differing in kind, from those which are possessed by every individual in this assembly.

Let every one then reflect, especially every person not yet passed the forming period of his life, that he carries about in his frame as in a casket, the most glorious thing, which, this side heaven, God has been pleased to create, an intelligent spirit. To describe its nature, to enumerate its faculties, to set forth what it has done, to estimate what it can do, would require the labor of a life devoted to the history of Man. It would be vain, on this occasion and in these limits, to attempt it. But let any man compare his own nature with that of a

plant, of a brute beast, of an idiot, of a savage ; and then consider that it is in mind alone, and the degree to which he improves it, that he differs essentially from any of them.

And let no one think he wants opportunity, encouragement, or means.—I would not undervalue these, any or all of them, but compared with what the man does for himself, they are of little account. Industry, temperance, and perseverance are worth more than all the patrons, that ever lived in all the Augustan ages. It is these, that create patronage and opportunity. The cases of our Franklin and Fulton are too familiar to bear repetition. Consider that of Sir Humphrey Davy, who died last year, and who was in many departments of science, the first philosopher of the age.*—He was born at Penzance in Cornwall, one of the darkest corners of England ; his father was a carver of wooden images for signs, and figure-heads, and chimney pieces. He himself was apprenticed to an apothecary, and made his first experiments in chemistry with his master's phials and gallipots, aided by an old syringe, which had been given him, by the surgeon of a French vessel, wrecked on the Land's End. From the shop of the apothecary, he was transferred to the office of a surgeon ; and never appears to have had any other education, than that of a Cornish school, in his boyhood. Such was the beginning of the career of the man, who at the age of twenty-two, was selected, by our own countryman, Count Rumford, (himself a self-taught benefactor of mankind,) to fill the chair of Chemistry at the Royal Institution, in London ; such was the origin and education of the man, who discovered the metallic basis of the alkalis and the earths ; invented the safety lamp ; and placed himself, in a few years, in the chair of the Royal Society of London, and at the head of the chemists of Europe. Sir Humphrey Davy's most brilliant discoveries were effected, by his skilful application of the Galvanic Electricity, a principle, whose existence had been detected, a few years before, by an Italian philosopher, from

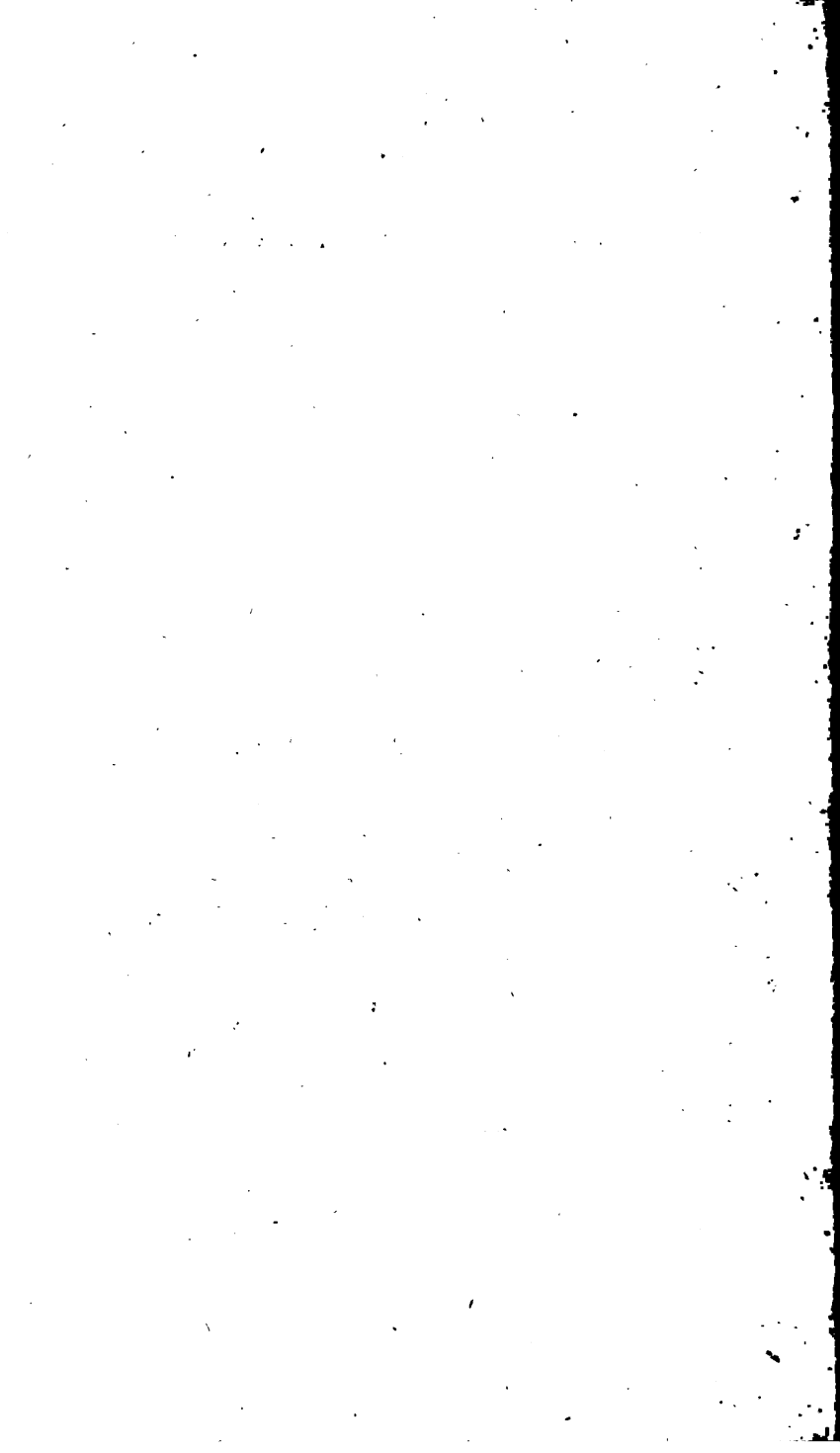
* The sketch of Sir Humphrey Davy which follows, to the end of the lecture, is abridged from the article in the Annual Biography for 1830.

noticing the contractions of a frog's limb suspended on an iron hook, a fact which shows how near us in every direction, the most curious facts lie scattered by nature. With an apparatus, contrived by himself to collect and condense this powerful agent, Sir Humphrey succeeded in decomposing the earths and the alkalis ; and in extracting from common potash, the metal (before unknown) of which it consists ;—possessing at 70° of the thermometer the lustre and general appearance of mercury, at 50°, the appearance of polished silver and the softness of wax ; so light that it swims in water ; and so inflammable that it takes fire, when thrown on ice.

These are perhaps but brilliant novelties ; though connected, no doubt, in the great chain of cause and effect, with principles of art and science, conducive to the service of man. But the invention of the safety lamp, which enables the miner to walk unharmed through an atmosphere of explosive gas, and has already saved the lives of hundreds of human beings, is a title to glory and the gratitude of his fellow men, which the most renowned destroyer of his race might envy.

The counsels of such a man, in his retirement and meditation are worth listening to. I am sure you will think I bring this lecture to the best conclusion, by repeating a sentence from one of his moral works :—

“I envy, says he, no quality of the mind or intellect in others ; not genius, power, wit or fancy ; but if I could choose what would be most delightful, and I believe most useful to me, I should prefer **A FIRM RELIGIOUS BELIEF** to every other blessing.”





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